SAMUSEV, F.

Forest on a stump. IUn. nat. no.9:38 S '61. (MIRA 14:8)
(Forest ecology)

SAMUSEV, F.F.

Results of the acclimatization of trees and shrubs in the Altai Botanical Garden. Biul.Glav.bot.sada no.19:11-16 '54.
(MIRA 8:2)

1. Altayskiy botanicheskiu sad Akademii nauk Kazakhskoy SSR.
(Acclimatization (Plants))(West Kazakhstan Province—Botanical Gardens)

SAMUSEV, F.F.

Natural poplar nurseries in the Altai. Priroda 46 no.2:86-89 F '57. (MLRA 10:3)

1. Altayskiy botanicheskiy sad Akademii nauk Kazakhskoy SSR.Leninogorsk. (Altai Territory--Poplar)

SAMUSEV, F.F.

Raising Chinese peonies in Leninogorsk. Biul.Glav.bot.sada no.32:50-52 '58. (MIRA 12:5)

1. Altayskiy botanicheskiy sad AN KazSSR.
(Leninogorsk--Peonies)

SAMUSEV, F.F.

Gentiana lutea L. in the Altai. Bot. zhur. 45 no.4:595-597 Ap '60.
(MIRA 14:5)

1. Institut zernogo khozyaystva Kazakhskoy sel'skokhozyaystvennoy akademii, st. Shortandy Akmolinskoy obl.
(Leninogorsk—Gentians)

SAMUSEV, F.F.

Monoecious goat willow. Bot.zhur. 46 no.6:896-897 Je '61.
(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zernovogo khozyaystva, stantsiya Shortandy, Pelinogradskoy oblasti.
(Willows)

SAMUSEV, I.F.

Sable in sIythern Altai. Trudy Inst.zool.AN Kazakh.SSR 2:167-171 '53. (MLRA 10:2)

(East Kazakhstan Province--Sables)

SAMUSEV, I. F., Cand Biol Sci (diss) -- "Useful birds of Zaysan Lake". Tomsk, 1959. 20 pp (Tomsk State U im V. V. Kuybyshev), 150 copies (KL, No 11, 1960, 131)

L 00659-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k) IJP(c) WW/EM
ACC NR: AP6021468 SOURCE CODE: UR/0413/66/000/011/0087/0087

INVENTOR: Perunina, O. A.; Samusev, I. F.; Subbotin, V. M.

ORG: none

TITLE: A method of measuring the displacement of points of a structure in static tests in thermoaerodynamic tubes. Class 42, No. 182373

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 87

TOPIC TAGS: aerodynamic test, high temperature aerodynamic test, aircraft structure test, STATIC TEST, TEMPERATURE TEST, AEROSPACE STRUCTURE

ABSTRACT: This Author Certificate introduces a method of measuring the displacement of points of a structure in static tests in thermoaerodynamic tubes. To ensure high precision and reliability of measurements at high temperatures each point is provided with a marker carrying two cylindrical rods mounted at a given distance from each other. The markers are illuminated and photographed prior to and during testing at given periods of time. On a developed negative, the scale for each point is determined and used for measuring the magnitude of the shift of the points. Orig. art. has: 1 figure. [MS]

SUB CODE: 14, 01/ SUBM DATE: 06Jan65/ ATD PRESS: 5040
UDC: 620.178

Card 1/1

VLADIMIROV, A.P., kand. tekhn. nauk; SAMUSEV, V.P., inzh.; ZHUMAKHANOVA, T.P., inzh.

Investigating new methods of preventing the adfreezing of clay to the conceying containers at the Kudinovskiy open pit. Sbor. trud. NIIZHelezobetona no.8:131-145 '63
(MIRA 18:1)

SAMUSEVA, G. S.

SAMUSEVA, G. S. -- "Materials for the Study of Disruptions of the Penetrability of Small Vessel Capillaries during Strangulating Asphyxia." Second Moscow State Med Institute imeni J. V. Stalin, Moscow, 1956. (Dissertation for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow

UMNOVA, M. A.; SAMUSEVA, G. S.; PROZOROVSKAYA, G. P.; PISKUNOV, T. M.; ICHALOVSKAYA, T. A. PROKOP, O.

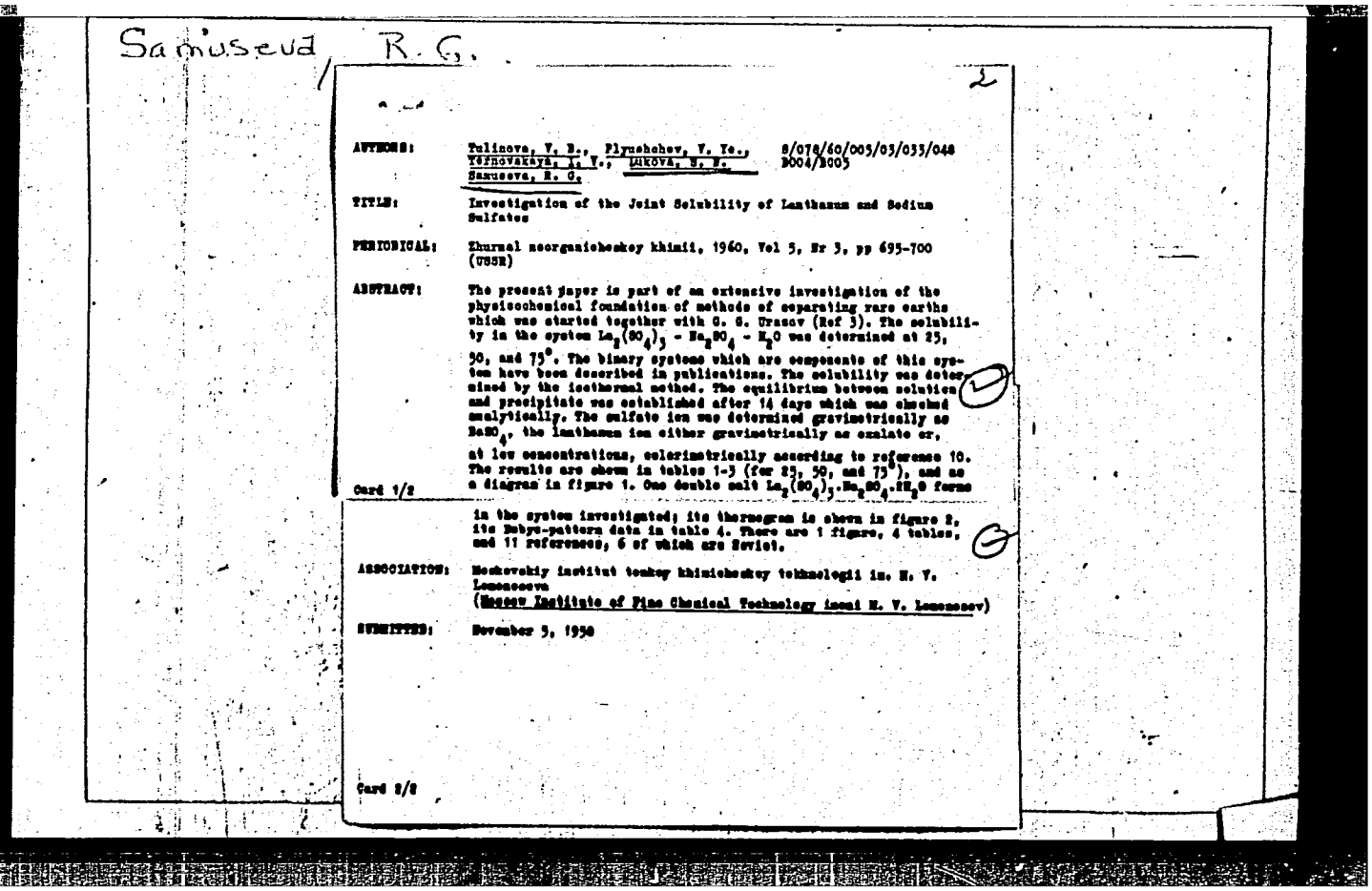
"Raspredeleniye razlichnykh faktorov krovi u naseleniya Moskvy."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

TER-GAZARYAN, E.L. [deceased]; BERLIN, A.A.; MACHINSKAYA, R.Ye.; NUBARYAN, T.K.; OGANESYAN, Sh.S.; SAMUSEVA, I.S.

Oxidation of natural gasoline in the liquid phase under pressure. Neftekhimiia 3 no.6:886-891 N-D '63. (MIRA 17:3)

1. Nauchno-issledovatel'skiy i proyektnyy institut khimii, Korovakan.



Samusev, R. G.

2

AUTHORS: Tulinova, V. B., Plyushchev, V. Ye., Tikhovskaya, I. V., Lukova, N. F., Samusev, R. G. S/078/60/005/03/033/048 B004/B005

TITLE: Investigation of the Joint Solubility of Lanthanum and Sodium Sulfates

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 3, pp 695-700 (USSR)

ABSTRACT: The present paper is part of an extensive investigation of the physicochemical foundation of methods of separating rare earths which was started together with G. G. Urazov (Ref 3). The solubility in the system $La_2(SO_4)_3 - Na_2SO_4 - H_2O$ was determined at 25, 50, and 75°. The binary systems which are components of this system have been described in publications. The solubility was determined by the isothermal method. The equilibrium between solution and precipitate was established after 14 days which was checked analytically. The sulfate ion was determined gravimetrically as $BaSO_4$, the lanthanum ion either gravimetrically as oxalate or, at low concentrations, colorimetrically according to reference 10. The results are shown in tables 1-3 (for 25, 50, and 75°), and as a diagram in figure 1. One double salt $La_2(SO_4)_3 \cdot Na_2SO_4 \cdot 2H_2O$ forms in the system investigated; its thermogram is shown in figure 2, its Debye-pattern data in table 4. There are 1 figure, 4 tables, and 11 references, 6 of which are Soviet.

Card 1/2

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: November 5, 1958

Card 2/2

26286
S/078/61/006/009/007/010
B127/B101

5.2100

AUTHORS: Samuseva R. G., Plyushchev, V. Ye.

TITLE: The fusibility of binary cesium and sodium halide systems

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 9, 1961, 2139-2141

TEXT: Since the study of sodium and cesium halides is highly interesting and only the system NaCl-CsCl alone has been investigated as yet, the halides of these metals have been studied in detail. The authors investigated NaF-CsF, NaBr-CsBr, NaI-CsI, and also NaCl-CsCl which is eutectic (34.5 mole % of NaCl and 439°C). The system was studied by means of Kurnakov's pyrometer and heating curves. Cooling curves were used for comparison. The results of a thermal analysis are given in tables. All systems are eutectic: NaCl-CsCl: 34.5 mole % of NaCl and 490°C; NaBr-CsBr: 37.5 mole % of NaBr and 460°C; NaI-CsI: 45 mole % of NaI and 435°C; NaF-CsF: 20 mole % of NaF and 615°C. There are 4 figures, 4 tables, and 3 Soviet-bloc references.

Card 1/6

26286
S/078/61/006/009/007/010
B127/B101

The fusibility of binary cesium...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosova)

SUBMITTED: July 26, 1960

Legend to the Tables: (1) Results of thermal analysis of the system .... (2) temperature of critical point, °C; (3) liquidus; (4) solidus; (5) polymorphous conversion of CsCl.

Card 2/6

PLYUSHCHEV, V.Ye.; SAMUSEVA, R.G.; POLETAYEV, I.F.

Thermal analysis of the systems Na_2SO_4 - Rb_2SO_4 and Na_2SO_4 - Cs_2SO_4. Zhur.neorg.khim. 7 no.4:860-865 Ap '62. (MIRA 15:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.
(Alkali metal sulfates) (Thermal analysis)

3717h
S/078/62/007/005/014/014
B101/B110

18.9200
AUTHORS: Samuseva, R. G., Poletayev, I. F., Plyushchev, V. Ye.

TITLE: Study of the fusibility in the systems $Na_2Cr_2O_7$ - $Rb_2Cr_2O_7$ and $Na_2Cr_2O_7$ - $Cs_2Cr_2O_7$

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 1146-1149

TEXT: The melting-point diagrams of the systems $Na_2Cr_2O_7$ - $Rb_2Cr_2O_7$ (I) and $Na_2Cr_2O_7$ - $Cs_2Cr_2O_7$ (II) were plotted by means of thermal analysis to extend the applicability of Rb and Cs compounds. The compound $Na_2Cr_2O_7 \cdot Rb_2Cr_2O_7$, m. p. 339°C, is formed in system I; it forms eutectics with the components of the system: $Na_2Cr_2O_7 \cdot Rb_2Cr_2O_7$ + $Na_2Cr_2O_7$, m. p. 303°C, contains 22 mole% $Rb_2Cr_2O_7$; $Na_2Cr_2O_7$ + $Rb_2Cr_2O_7$, m. p. 317°C, contains 75 mole% $Rb_2Cr_2O_7$. A polymorphous conversion of the sodium bichromate was observed at 248°C. The low thermal effect of this conversion

Card 1/2

Study of the fusibility...

is only observed in thermograms for melts containing less than 30% rubidium bichromate. The compound $Na_2Cr_2O_7 \cdot Cs_2Cr_2O_7$, m. p. 362°C, is formed in system II; it forms eutectics with the initial components: at 315°C, one containing 21 mole% cesium bichromate, and at 327°C, another containing 74 mole% cesium bichromate. At high $Cs_2Cr_2O_7$ concentrations (up to 15 mole% $Na_2Cr_2O_7$) and at high temperatures, solid solutions are formed on the basis of cesium bichromate, which decompose owing to polymorphous conversion of $Cs_2Cr_2O_7$. The polymorphous conversion of pure cesium bichromate occurs at 352°C. In the eutectoid point e (92 mole% $Cs_2Cr_2O_7$, 314°C), the solid α-solution decomposes into the chemical compound and the solid β-solution. The double salts were identified by x-ray analysis. There are 2 figures and 3 tables.

SUBMITTED: July 11, 1961

Card 2/2

S/078/62/007/006/016/024
B119/B138

Joint solubility of...

SUBMITTED: June 23, 1961

Fig. Solubility isotherms in the system NaI - CsI - H_2O at 25°C (I) and 50°C (II). A = Solubility of pure NaI in water, B = solubility of pure CsI in water, E = eutonic point. The numbers refer to the single measuring points. Abscissa: % by weight of CsI, ordinate: % by weight of NaI.

Card 2/3 2

S/078/62/007/007/008/013
B117/B101

AUTHORS: Samuseva, R. G., Yegorova, K. S., Plyushchev, V. Ye.

TITLE: Study of the ternary system of sodium bromide - cesium bromide - water

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 7, 1962, 1666-1669

TEXT: The solubility isotherms of the system NaBr - CsBr - H_2O at 25 and 50°C, and the solubility polytherm of the system CsBr - H_2O at 0 - 80°C were studied. The first mentioned were shown to have three branches corresponding to the crystallization respectively of CsBr, NaBr·3CsBr, of NaBr·$2H_2O$ (at 25°C), and of NaBr (at 50°C). At 120°C, the binary salt NaBr·3CsBr splits into its components; this was identified by the powder method and confirmed by comparing the interplanar distances calculated from the data for NaBr and CsBr. There are 3 figures and 3 tables.

Card 1/2

S/078/62/007/007/008/013
B117/B101

Study of the ternary system...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: April 4, 1961

Card 2/2

S/078/63/008/001/017/026
B189/B101

AUTHORS: Samuseva, R. G., Plyushchev, V. Ye., Poletayev, I. F.

TITLE: Phase diagrams of the systems Na_2CrO_4-Rb_2CrO_4 and Na_2CrO_4-Cs_2CrO_4

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 1, 1963, 167-171

TEXT: 31 Na_2CrO_4-Rb_2CrO_4 and 26 Na_2CrO_4-Cs_2CrO_4 mixtures of differing composition were subjected to thermal analysis. The homogenization of the melts was performed by cooling down the mixtures very slowly to room temperature in the furnace (14 - 16 hours). The phase diagrams for Na_2CrO_4-Rb_2CrO_4 (Fig. 1), and for Na_2CrO_4-Cs_2CrO_4 (Fig. 2) were plotted from the analytical data. The assumed existence of analogies between the binary systems of chromates and of sulfates, due to the nearly equal ionic radii of CrO_4^{2-} (3.00 Å) and So_4^{2-} (2.95 Å), was confirmed. There are 2 figures and 3 tables.

Card 1/2

S/078/63/008/001/017/026
B189/B101

Phase diagrams of the...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: April 16, 1962

Fig. 1. Phase diagram of the system Na_2CrO_4-Rb_2CrO_4.

Legend: (1) mole%.

Fig. 2. Phase diagram of the system Na_2CrO_4-Cs_2CrO_4.

Legend: (1) mole%.

Card 2/4 2

SAMUSEVA, R.G.; YEGOROVA, R.S.; PLYUSHCHEV, V.Ye.

Ternary system sodium bromide - cesium bromide - water. Zhur.neorg.khim. 7 no.7:1666-1669 Jl '62. (MIRA 16:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.
(Sodium bromide) (Cesium bromide)

SAMUSEVA, R.G.; PLYUSHCHEV, V.Ye.; POLETAYEV, I.F.

Phase diagrams of the systems Na_2CrO_4 - Rb_2CrO_4 and Na_2CrO_4 - Cs_2CrO_4. Zhur.neorg.khim. 8 no.1:167-171 Ja '63. (MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.
(Alkali metal chromates) (Thermal analysis)

SHAKHNO, I.V.; PLYUSHCHEV, V.Ye.; TITUNINA, Ye.M.; SAMUSEVA, R.G.

Solubility in the system Na_2CrO_4 - Cs_2CrO_4 - H_2O at 25 and 50°C. Zhur. neorg. khim. 8 no.6:1466-1469 Je '63. (MIRA 16:6)

(Alkali metal chromates)
(Solubility)

PLYUSHCHEV, V.Ye.; SAMUSEVA, R.G.

Binary systems of cesium bromide with lithium, potassium and rubidium bromides. Zhur. neorg. khim. 9 no.9:2179-2181 S '64. (MIRA 17:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

SAMUSEVA, R.G.; PLYUSHCHEV, V.Ye.

Systems KI - RbI, KI - CsI, and RbI - CsI. Zhur. neorg. khim. 9 no.10:2433-2435 O '64.

Systems NaBr - RbBr and NaI - RbI. Ibid.:2436-2437

(MIRA 17:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

SAMUSEVA, R.G.; ZHARKOVA, R.M.; PLYUSHCHEV, V. Ye.

System Na_2MoO_4 - Cs_2MoO_4. Zhur. neorg. khim. 9 no.11:2678-2679 N '64. (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

L 52065-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/T/EWP(t)/EWP(b)/EWA(c) Pr-4/
Ps-4/Pt-7 IJP(c) JD/JW/JG
ACCESSION NR: AP5012976 UR/0078/65/010/005/1270/1272

40
B

AUTHOR: Samuseva, R. G.; Plyushchev, V. Ye.

TITLE: CsF - KF and CsF - RbF systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 5, 1965, 1270-1272

TOPIC TAGS: cesium fluoride, potassium fluoride, rubidium fluoride, binary phase diagram, alkali halide

ABSTRACT: The study is an integral part of the authors' investigation of diagrams of the condensed state of binary systems formed by cesium halides with halides of other alkali elements. The CsF - KF and CsF - RbF systems were studied by thermal analysis. A Kurnakov pyrometer and a differential thermocouple were used to record the heating curves. The preparation of the samples (mixing of components, preparation of alloys) and heating during pyrometry were carried out in platinum crucibles covered with special lids with apertures. The CsF - KF system (see fig. 1 of the Enclosure) is characterized by the formation of one-sided CsF-base solid solutions (containing up to 15 mol % KF). The eutectic point corresponds to 57 mol % CsF and

Card 1/3

L 52065-65

ACCESSION NR: AP5012976 O

625°C. The fusibility diagram of the CsF - RbF system (see fig. 2 of the Enclosure) shows unlimited mutual solubility between RbF and CsF (formation of a continuous series of solid solutions); this is in complete agreement with the known isomorphous relationships of the overwhelming majority of simple rubidium and cesium salts. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 04Jul64 ENCL: 01 SUB CODE: IC

NO REF SOV: 003 OTHER: 000

Card 2/3

L 52065-65
ACCESSION NR: AP5012976

ENCLOSURE: 01

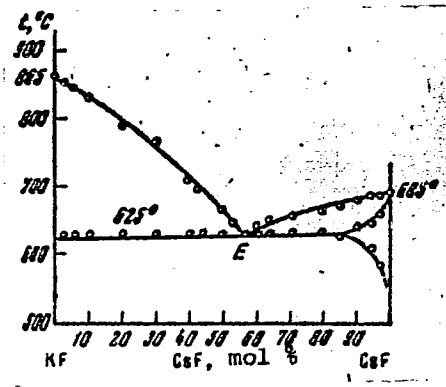


Fig. 1. Fusibility diagram of the system CsF - KF

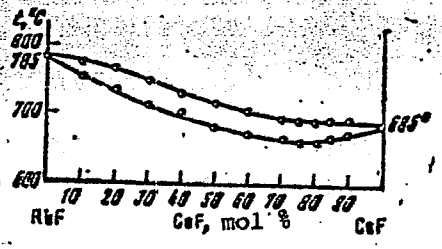


Fig. 2. Fusibility diagram of the system CsF - RbF

Card 3/3

SAMUSEVA, R.G.; PLYUSHCHEV, V.Ye.

Systems sF - KF and sF - RbF. Zhur. neorg. khim. 10 no.5: 1270-127.. My '65. (MIRA 18:6)

SAMUSEVA, R.N.

Plotting charts representing the travel time of tsunamis in the region of Kurile Islands. Trudh MGI 24:85-88 '61.
(MIRA 14:6)

(Kurile Islands--Tidal waves--Maps)

SAMUSEVA, R.N.

Waves at the separating boundary between two streams approaching each otheer at tn angle. Trudy MGI 24:126-134 '61.
(MIRA 14:6)

(Waves)

SAMUSHENOK, I.N. (Saratov)

Analytic relation between the arithmetical characteristics of irrational numbers. Volzh. mat. sbor. no.1:164-168 '63. (MIRA 19:1)

KHEGAY, T.A.; SAMUSHENOK, V.I.; KLEYMENOV, V.V.

Use of defibrinated pregnant mare's blood in sheep raising.
Veterinariia 41 no.8:82-83 Ag '64. (MIRA 18:4)

1. Glavnyy veterinarnyy vrach Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Khegay). 2. Zaveduyushchiy veterinarnoy laboratoriyey Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Samushenok). 3. Zaveduyushchiy biologicheskim punktom Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Kleymenov).

SAMUSHIYA, Sh.V.

Prthomorphological changes in the seminal gland following funiculotomy. Soob. AN Gruz. SSR 29 no.2:215-220 Ag '62. (MIRA 18:3)

1. Institut urologii AN GruzSSR, Tbilisi. Submitted June 26, 1961.

ZHBANKOVA, Inessa Ivanovna; SANUSKEVICH, A.V., kand. fil. nauk, red.; VOL'SKAYA, G., red.

[Development in inorganic nature] O razvitii v neorganicheskoi prirode. Minsk, Nauka, i tekhnika, 1964. 150 p. (MIRA 18:1)

SAMUSEVICH, Yu.

Relay race along the Komsomol Embankment. Za rul. 20 no.3:16 Mr '62. (MIRA 15:3)

1. Predsedatel' Rizhskogo gorodskogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Riga--Racing)

FAVORSKAYA, T.A.; SAMUSIK, B.N.

Synthesis and study of conversions of acetylenic α-glycols having a free acetylenic hydrogen. Part 6: Preparation of 3-(1-hydroxy-1-cyclohexyl)-1-butyn-3-ol and study of its conversion under the effect of sulfuric acid. Zhur.ob.khim. 32 no.7:2128-2134 Jl '62. (MIRA 15:7)

1. Leningradskiy gosudarstvennyy universitet.
(Glycols) (Sulfuric acid)

FAVORSKAYA, T.A.; SAMUSIK, B.N.

Acetylenic hydroxy acids, their synthesis and transformations. Part 1: Synthesis of esters of acetylenic hydroxy acids starting from esters of pyruvic and diethylacetoacetic acids. Zhur. ob.khim. 33 no.10:3157-3159 O '63. (MIRA 16:11)

1. Leningradskiy gosudarstvennyy universitet.

Samuskevich, A. V.

USSR/ General Section A

Abs Jour : Ref Zhur - Fizika No 5, 1957, No 10710

Author : Samuskevich, A.V.
Inst : Not given
Title : Certain Philosophical Problems of Atomistics and the Struggle Against a Mechanism in Modern Physics.

Orig Pub : Nauch. Tr. po filos. Belorus. un-t, 1956, vyp. 1, 200-241

Abstract : The author considers dialectically the unity of the continuous and the discontinuous in the atomistics of modern times. The author considers the field concept of Einstein and Infeld and also of Blokhintsev and Frenkel' as mechanistic and sympathetically refers to the work by Bohm, de-Broglie, Vigier, Janossy, and Fenyes.

Card : 1/1

L 05086-67
ACC NR: AP6013258 SOURCE CODE: UR/0413/66/000/008/0048/0048

AUTHORS: Gural'nik, S. N.; Samus'yev, B. A. 21 B

ORG: none

TITLE: An oscillographic galvanometer mounting. Class 21, No. 180692 10

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 48

TOPIC TAGS: galvanometer, electric measuring instrument

ABSTRACT: This Author Certificate presents an oscillographic galvanometer mounting with a mobile pickup loop fastened to the tension wires in the tubular casing. The design makes it possible to regulate the position of the pickup loop in the operating gap. The ends of the galvanometer casing are made with grooves in which the tension wire holders are positioned. The tension wire holders have a space which makes it possible to shift the holders in a direction perpendicular to the longitudinal axes of the galvanometer and parallel to the plane of the pickup loop. To provide visual control for positioning the pickup loop in the working gap and to facilitate the installation, the galvanometer casing is provided with viewing windows. One of the holders of the tension wires is made in the form of a P-shaped

Card 1/2 UDC: 621.317.715.5

L 05083-67
ACC NR: AP6013258

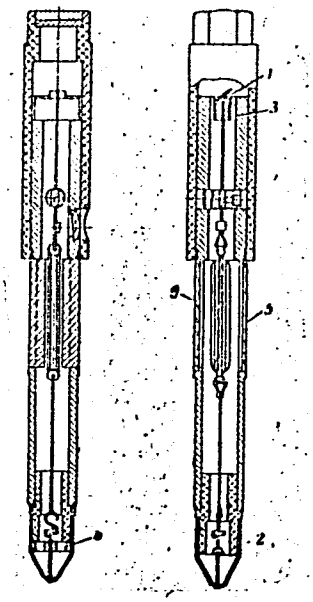


Fig. 1. 1 and 2 - grooves in the galvanometer casing; 3 and 4 - tension wire holders; 5 - viewing windows

bracket (see Fig. 1). The bracket has a tab for fastening the tension wire. Orig. art. has: 1 figure.

Card 2/2 IC SUB CODE: 09, 14/ SUBM DATE: 16Nov62

SAMUTIN, L.A.

Radiometric analysis of samples in a metallometric survey.
Geofiz.razved. no.10:88-95 '62. (MIRA 15:12)
(Uranium ores--Radioactive properties)

DRONG, I.I., otv. red.; SAMUTIN, V.Ya., red.; KAZACHENOK, V.S., red.; TIMOSHCHUK, R.S., tekhn. red.

[Wheeled universal tractor "Belarus'" MTZ-50PL] Kolesnyi universal'nyi traktor "Belarus'" MTZ-50PL; rukovodstvo po ekspluatatsii i ukhodu. Minsk, Sel'khozgiz BSSR, 1963. 315 p. (MIRA 16:5)

1. Minskiy traktornyy zavod. 2. Glavnyy konstruktor Minskogo traktornogo zavoda (for Drong).

(Tractors)

DRONG, I.I., otv. red.; SAMUTIN, V.Ye., red.; STAROVYBORNYY, P.T., red.; TIMOSHCHUK, R.S., tekhn. red.

[The "Belarus'" MTZ-50 tractor] Traktor "Belarus'" MTZ-50; rukovodstvo po ekspluatatsii i ukhodu. Minsk, Gos.izd-vo sel'khoz.lit-ry BSSR, 1963. 358 p. (MIRA 16:11)

1. Minskiy traktornyy zavod. 2. Glavnyy konstruktor Minskogo traktornogo zavoda (for Drong).
(Tractors)

KUPREVICH, V.F.; SHCHERBAKOVA, T.A.; SEROVA, Z. Ya.; KISELEVA, N.A.; SAMUYLENKO, A.I.; REUTSKAYA, L.N.

Physiological changes in rye infected with rust. Dokl. AN BSSR 9 no. 11:758-760 N '65 (MIRA 19:1)

1. Otdel fiziologii i sistematiki nizshikh rasteniy AN BSSR.

SAMUYLENKO, F. A.

Lumbering

Let's fulfill early the annual lumber supply plan. Les. prom. 12 no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1953, Uncl.

1. SAMYLENKO, F. A.
2. USSR (600)
4. Wood-using Industires--White Russia
7. Tasks of the wood-processing industry of White Russia, Les. prom., 13, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, Apr 11, 1953, Uncl.

CHIZHEVSKAYA, I.I.; SAMUYLENKO, L.I.; GAPNOVICH, L.I.

Synthesis of N,N-bis (2-chloroethyl) amino derivitives from 1-(o-nitro)phenoxy-2,3-epoxypropane. Zhur.ob.khim. 33 no.2: 657-660 F '63. (MIRA 16:2)

1. Institut fiziko-organicheskoy khimii AN Belorusskoy SSR.
(Amines) (Propane) (Epoxy compounds)

SAMUYLENKOVA, V.D

AUTHORS: Ryabchenkov, A.V., Dr. of Chemical Sciences Prof., Nikiforova, V. M., Candidate of Technical Sciences, Nezvanova, N. V. and Samuylenkova, V.D., Engineers.

TITLE: Experience of the Czechoslovak industry in protecting equipment exported to countries with tropical climates. (Opyt Chekhoslovatskoy promyshlennosti po zashchite oborudovaniya, eksportiruyemogo v strany s tropicheskim klimatom).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.6, pp.59-63 (U.S.S.R.)

ABSTRACT: The authors of this paper became acquainted with Czech practice in a number of Czechoslovak works. In Czechoslovakia the corrosion conditions are subdivided into the following four groups: very favourable (closed dry spaces); favourable (spaces in which atmospheric conditions act periodically); average conditions and difficult corrosion conditions (industrial atmosphere of seaside regions). Equipment intended for tropical climates is treated as being subjected to the most severe conditions of corrosion. Czech practice is described as regards protective painting, electro-plating (3-layer Cu-Ni-Cr plating, cadmium plating followed by chromating, zinc plating followed by chromating and in some cases by coating with lacquer), copper-plating, nickel-plating,

Experience of the Czechoslovak industry in protecting equipment exported to countries with tropical climates. (Cont.)

chromating, cadmium-zinc plating, anodising of aluminium and its alloys, conservation and packing. Fundamentally the materials and technology do not differ greatly from those used for goods supplied to countries with temperate climates. The main differences are: the enamel is made one to two layers thicker; in the case of varnishing electrical equipment and machine tools, coating enamels are used which contain fungicide additions; oil bases are used having a high content of minium; in the case of synthetic enamels, enamels with aluminium powder as pigments are used and extreme care is taken to produce a good surface quality prior to coating. Highly qualified personnel is used for the painting and surface treatment work. For tropical conditions coatings consisting of copper-nickel-chromium layers of a total layer thickness of about 30 to 45 μ are widely used; cadmium coating (8 to 15 μ) with subsequent chromating is used for springs; zinc coating (8 to 35 μ) with subsequent chromating is used predominantly for small fixing components which after fitting are varnished. Vaselines with various

Experience of the Czechoslovak industry in protecting equipment exported to countries with tropical climates. (Cont.)

additions are used for conservation purposes. For protecting ferrous metals during storage and transportation a volatile inhibitor, dicyclohexo-aminonitride, is used.

AVAILABLE:

Card 3/3

39170
S/120/62/000/003/043/048
E073/E335

9,4340

AUTHORS: Kochegarov, V.M., Zaks, D.I. and Samuylenkova, V.D.

TITLE: Electrodeposition of indium on germanium

PERIODICAL: Pribory i tekhnika eksperimenta, no. 3, 1962, 187 - 189

TEXT: For the purpose of producing contacts used in semiconductor devices three solutions of indium sulphate in deionized water with In contents of 1.0, 0.5 and 0.1 mole/litre have been tested (20 °C, pH = 2.5). Indium was deposited on a single-crystal n-type Ge plate (resistivity 3 ohm.cm, diffusion length 0.6 - 0.8 mm) oriented along the [111] axis. Although all the solutions tested proved satisfactory, the best deposits were obtained with an indium concentrate of 1 mole/litre, in which case the deposition could be carried out at a rate of 32 μ/h with a high current efficiency. Deposits of high quality were obtained which adhered well to the Ge surface. An increase in the deposit thickness to 100 μ and more does not lower its quality. The indium contact produces on n-Ge an electron-hole junction; the

Card 1/2

Electrodeposition of ....

rectifying properties of this junction are lower than for a fused junction. The method is advantageous for manufacturing semiconductor devices with large indium electrode surfaces. There are 1 figure and 1 table.

ASSOCIATION: Taganrogskiy radiotekhnicheskiy institut
(Taganrog Radiotechnical Institute)

SUBMITTED: October 23, 1961

Card 2/2

KOCHEGAROV, V.M.; SAMUYLENKOVA, V.D.

Electrodeposition of thallium from trivalent thallium sulfate solutions. Zhur.prikl.khim. 38 no.3:680-682 Mr '65.
(MIRA 18:11)

1. Taganrogskiy radiotekhnicheskiy institut. Submitted Jan. 14, 1963.

KOCHEGAROV, V.M.; SAMUYLENKOVA, V.D.

Kinetics of the formation of indium-bismuth alloys in perchlorate solutions. Elektrokhimiia 1 no.12:1470-1474 D '65. (MIRA 19:1)

1. Ryazanskiy radiotekhnicheskiy institut. Submitted March 31, 1965.

L 52306-65 EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5008817 S/0080/65/038/003/0680/0682

AUTHOR: Kochegarov, V. M.; Samuylenkova, V. D.

TITLE: Investigation of thallium electroplating from solutions of sulfates of trivalent thallium

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 3, 1965, 680-682

TOPIC TAGS: thallium electroplating, thallic sulfate, thallium compound

ABSTRACT: The study was carried out in a 250-milliliter beaker. The electrolyte was prepared by dissolving thallium hydroxide in sulfuric acid. Thallium concentration was adjusted to 0.5 mol of metal per liter of electrolyte by means of adding deionized water. During electrolysis the pH was equal to 1.0, the thallium concentration was kept at a constant level by means of periodic addition of thallium hydroxide, and the temperature was kept at a $\pm 0.5^0$ C constant level by placing the beaker in a thermostat. In order to ensure high quality platings, 1.0 gram of joiner's glue and 0.5 gram of phenol were added per liter of electrolyte. The cathode polarization curves have two sloped sections and a plateau. The first

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L 52306-65

ACCESSION NR: AP5008817

slope corresponds to partial reduction of the thallium ion ($Tl^{3+} + 2e = Tl^{+}$), the process being limited by thallium ion diffusion. The plateau section of the curve corresponds to the critical current value for the process of partial reduction. The second slope corresponds to reduction of monovalent thallium ions to the metallic form ($Tl^{+} + e \rightarrow Tl$). The current efficiency of thallium metal plating process increases with an increase of current density and a decrease of temperature. Orig. art. has: 3 figures.

ASSOCIATION: Taranrogskiy radiotekhnicheskiy institut (Taranrog Institute of Radiotechnics)

SUBMITTED: 14Jan63 ENCL: 00 SUB CODE: MM

NO REF SOV: 008 OTHER: 000

LL

Card 2/2

L 62197-65 EWT(1)/EWT(m)/EWP(i)/T/EWP(t)/EWP(z)/EWP(b)/EWA(h) Pz-6/Pad/Peb
IJP(c) JD/HW/AT

ACCESSION NR: AP5015882 UR/0080/65/038/006/1300/1304
621.357.9

38
B

AUTHOR: Kochegarov, V. M., Samuylenkova, V. D., Semyachko, G. Ya.

TITLE: Electrodeposition of electric contacts on the surface of n- and p-type germanium

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 6, 1965, 1300-1304

TOPIC TAGS: electrodeposition, germanium surface, electric contact, semiconductor, fluoborate electrolyte

ABSTRACT: The results of a study of the electrodeposition of tin, lead, bismuth, thallium, copper, nickel, indium, and antimony on n- and p-type germanium single crystals are presented. The compositions of the baths and the conditions of electrolysis for preparing high-quality deposits were selected. The deposits were dense, bright, finely crystalline, and adhered well to the germanium surface. Particular attention was devoted to the treatment of the surfaces prior to deposition, since the purity of the semiconductor surface is an essential factor in the preparation of a high-quality metal deposit. Fluoborate baths were found to be the best electrolytes for the electrodeposition. The static current-voltage characteristic of the metal-semiconductor-contact junction, which reveals the degree of nonlinearity of this junction, was measured, and the type of contact obtained (rectifying or

L 62197-65

ACCESSION NR: AP5015882

ohmic) was thus determined. In ohmic contacts, the slopes of the current-voltage characteristics were different, even though the metals were deposited under geometrically identical conditions; this indicates the presence of different transition resistances in the contact region, due to the presence of germanium oxides, which have not been completely removed. A high cathodic potential promotes the removal of these oxides and lowers the transition resistance; such a potential arises in electrolytes from which the metal is deposited with a high cathodic polarization (electrolytes containing fluoride ion). The data obtained in the study may be useful in the manufacture of solid-state circuits and in microminiaturization. Orig. art. has: 2 tables.

ASSOCIATION: None

SUBMITTED: 29Mar63 ENCL:00 SUB CODE: IC, EC

NO REF SOV: 009 OTHER: 013

Card 2/2

L 21593-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AP6012438 SOURCE CODE: UR/0364/65/001/012/1470/1474

AUTHOR: Kochegarov, V. M.; Samuylenkova, V. D. 43 13

ORG: Ryazan Radio Engineering Institute (Ryazanskiy radiotekhnicheskiy institut)

TITLE: Investigation of the kinetics of indium-bismuth alloy formation in perchloric acid solutions 27 27

SOURCE: Elektrokhimiya, v. 1, no. 12, 1965, 1470-1474

TOPIC TAGS: bismuth alloy, indium alloy, perchloric acid , solution concentration, chemical precipitation, current density

ABSTRACT: The authors study the formation of a galvanic bismuth-indium alloy in aqueous solutions of perchloric acid. The effect of metal concentration on the indium content in the alloy was investigated and yields with respect to current were measured. Five solutions were studied at 20°C with a constant total concentration of metals (1 mol/ℓ) and indium:bismuth ratios in solution of 1:9, 1:3, 1:1, 3:1 and 9:1. All solutions had a constant acidity of pH = 1.0. The procedures used for preparation of the solutions and taking the measurements are briefly described. Cathode polarization curves are given for precipitation of indium and bismuth from pure and mixed solutions. The curve for precipitation from a mixed solution is in a higher positive region than the curve for the component with a more positive potential. This indicates depolarization of both components with indium being depolarized to a greater extent than bis-

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UDC: 541.13

Card 1/2

L 24593-66
ACC NR: AP6012438 0

muth. Experiments gave an alloy with 20% indium. Curves are given showing indium content in the alloy as a function of current density and metal concentration. It was found that an increase in current density always reduces the indium yield from all solutions. A precipitate with a maximum indium concentration for a given solution was usually obtained at low current densities. A sharp variation in indium yield as a function of current density takes place only in regions of low current densities (below 0.5 a/dm^2) after which a saturation effect is observed. Curves are given showing indium yield as a function of concentration at 1 and 0.25 a/dm^2. An increase in indium concentration in the solution increases the content in the precipitate within a wide range of current densities, although concentration has a greater effect on the increased indium content in the precipitate at low current densities. It is shown that the alloy yield with respect to current is nearly 100% over a wide range of current densities. The precipitates from all solutions showed satisfactory quality. A solution with 50% bismuth and 50% indium is recommended for industrial use on the basis of technological data. Orig. art. has: 5 figures, 2 formulas.

SUB CODE: 07,11/ SUBM DATE: 31Mar65/ ORIG REF: 015/ OTH REF: 001

Card 2/2 BK

AUTHOR: Samuylik, G.S., Engineer 127-58-4-25/31

TITLE: The Turnable (Povorotnyy krug)

PERIODICAL: Gornyy Zhurnal, 1958, Nr 4, pp 70-71 (USSR)

ABSTRACT: Two Engineers of the mechanical section of the Yuzhgiproruda Institute, V.N. Pishchikov and I.I. Kosenko, proposed a turntable, operated by compressed air for use in shafts to switch coal cars from one track to another. The turntable has a diameter of 2.5 m ani is supported by ballbearings on an immobile frame. The tracks, gage 600 mm are fixed on the turntable with a track space of 1,460 mm and have locks that hold the coal cars during the switching operation.

ASSOCIATION: Yuzhgiproruda

Card 1/1 1. Railway switches - Design 2. Mines - Equipment

TORGONSKIY, Mikhail Nikolayevich, kandidat tekhnicheskikh nauk; TITOV, P.V., inzhener, ofitsial'nyy retsenzent; LESKOV, T.N., inzhener, ofitsial'nyy retsenzent; SAMUYLLO, V.I., redaktor; PITERMAN, Ye.L., redaktor izdatel'stva; KARASIK, N.P., tekhnicheskiy redaktor

[Structures for forest roads] Iskusstvennye sooruzheniia lesovoznykh dorog. Moskva, Goslesbumizdat, 1956. 151 p. (MLRA 9:9)
(Forest roads)

SAMUYLLO, V.O., dots. kand. tekhn. nauk; SOBOLEV, Yu.S., assistent

Elastic constants for wood. Nauch. trudy MLTI no.8:16-35 '58. (MIRA 13:3)

(Wood) (Elasticity)

SERGOVSKIY, P.S.; BYKOVSKIY, V.N.; SAMUYLLO, V.O.

Elastic-plastic properties of wood as related to the stresses and deformations during its drying. Der.prom. 10 no.6:3-6 Je '61. (MIRA 14:7)

1. Moskovskiy lesotekhnicheskiy institut.
(Lumber--Drying) (Wood)

MOVNIN, Mikhail Savel'yevich, doktor tekhn. nauk, prof.; MITINSKIY, Arsenii Nikolayevich, prof.[deceased]; prinyal uchastiye: GOL'TSIKER, D.G., inzh.; BORISOV, V.N., dotsent, kand. tekhn. nauk, retsenzent; SAMUYLLO, V.O., V.O.dots., retsenzent; TAUBER, B.A., prof., retsenzent; CHERNAVSKIY, S.A., dotsent, retsenzent; ITSKOVICH, G.M., inzh., nauchnyy red.; PITERMAN, Ye.L., red. izd-va; PARAKHINA, N.L., tekhn. red.

[Technical mechanics; strength of materials, theory of mechanisms and machines. Machine parts] Tekhnicheskaia mekhanika; soprotivlenie materialov, teoriia mekhanizmov i mashin. Detali mashin. Izd.2., perer. Moskva, Goslesbumizdat, 1961. 781 p. (MIRA 14:6)
(Mechanical engineering) (Strength of materials)

L 63265-65 EWT(1)/EWA(j)/T/EWA(b)-2 JK

ACCESSION NR: AP5017021 UR/0016/65/000/007/0093/0099
616.986.724-036.21

20
18
B

AUTHOR: Drankin, D. I.; Samuylo, O. I.

TITLE: Epidemiology of outbreaks of marsh fever

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 7, 1965, 93-99

TOPIC TAGS: leptospirosis, epidemiology, parasitology

ABSTRACT: The author analyzes published descriptions of 36 outbreaks of marsh fever (1941-1962) that resulted from swimming in infected waters. These "bathing" epidemics had the following features in common: (1) they occurred mostly in the southern regions of the Soviet Union and in rural localities; (2) the causative agents were either *L. grippotyphosa* or *L. pomona* or both simultaneously; (3) the sources of infection were cattle, occasionally swine, horses, and sheep; (4) the people usually bathed in artificial bodies of water (ponds) or small sluggish rivers; (5) strict seasonal character (about 40 days in the summer); (6) the number of patients per outbreak ranged from 5 to 280, averaging 48; (7) most of the patients were males--school children and adults. Summer showers were a significant factor.

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L 63265-65

ACCESSION NR: AP5017021

In some cases they contributed to outbreaks of the disease by creating small bodies of water into which the excrement of infected cattle eventually flowed. In others they actually helped to end outbreaks by accelerating the flow of creeks, etc. thus helping to cleanse them. The authors present a detailed description of an epidemic in 1962 near their native city Novokuznetsk, a major industrial center in Southwestern Siberia. This epidemic had almost all of the above characteristics. Orig. art. has: 1 figure.

ASSOCIATION: Novokuznetskiy institut usovershenstvovaniya vrachey (Novokuznetsk Institute of Postgraduate Medicine); Sanitarno-epidemiologicheskaya stantsiya Kuybyshevskogo rayona Novokuznetska (Sanitary-Epidemiological Station, Kuybyshev Rayon, Novokuznetsk)

SUBMITTED: 16May64 ENCL: 00 SUB CODE: LS

NO REF SOV: 030 OTHER: 000

Card 2/2

L 38916-66 EWT(m)/EWP(j) RM

ACC NR: AP6021422 SOURCE CODE: UR/0413/66/000/011/0021/0021 42 6

INVENTOR: Dregval', G. F.; Samuylov, A. M.

ORG: none

TITLE: Preparation of dialkyl 1-dialkylaminoisopropyl phosphates. 1 Class 12, No. 182159 [announced by DOnets Branch of the All-Union Scientific Research Institute of Chemical Reagents and High Purity Chemicals (Donetskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 21

TOPIC TAGS: organic synthetic process, organic phosphorus compound, organic nitrogen compound, phosphate ester

ABSTRACT: The Author Certificate introduces a method for the preparation of dialkyl 1-dialkylaminoisopropyl phosphates by heating 1-dialkylaminoisopropanolate with dialkyl chlorophosphate. [JK]

SUB CODE: 07/ SUBM DATE: 01Mar65

Card 1/1 UDC: 547.26118.07

SAMUYLOV, F.D., YEFREMOV, YU.YA.

"Utersuchungen zum Wasseraustausch und zum Zustand des Wassers in Pflanzen mit Hilfe von schwerem Wasser (HDO)."

Report presented at the 2nd Conf. on Stable Isotopes.
East German Academy of Sciences, Inst. of Applied Physical Material
Leipzig, GDR 30 Oct-4 Nov '61.

22895

S/109/61/006/004/009/025
E140/E163

9,3700 (1057, 1482, 1163)

AUTHOR: Samuylov, G.P.

TITLE: The approximate calculation of higher wave modes in strip lines

PERIODICAL: Radiotekhnika i elektronika, Vol.6, No.4, 1961, pp. 579-583

TEXT: The author derives expressions for the critical wave number in strip lines, reducing the three-dimensional problem of longitudinal wave propagation to the two-dimensional problem of transverse propagation. The result is a solution of the three-dimensional problem of the H_{10}-mode in strip lines.

Acknowledgements are expressed to N.G. Trenev for discussion of the theme.

There are 5 figures and 1 Soviet reference.

SUBMITTED: May 23, 1960

Card 1/1

L 06302-67 EWP(k)/EWT(d)/EWP(h)/EWP(l)/EWP(v) IJP(c) GG/BB/GD

ACC NR: AT6015368 SOURCE CODE: UR/0000/65/000/000/0148/0152

AUTHOR: Samuylova, V. N.; Valyavko, V. V.; Samuylov, N. N. 53 B+1

ORG: none

TITLE: High speed semiconductor decoder 16

SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 148-152

TOPIC TAGS: digital decoder, digital computer, computer circuit, computer control system, computer technology, transistorized circuit

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ABSTRACT: A method for improving the speed of decoders in computer control units by means of substituting switching transistors for decoupling resistors is proposed. The speed of arithmetic and logic operations in a computer depends on the operational speed of the decoders. The response of a diode matrix is determined by the time constants of the circuits, primarily by decoupling resistors in combination with the various circuit capacitances. One way to improve the speed is to reduce the value of the decoupling resistors; this however, is undesirable because of the increase in current and decrease in signal-to-noise ratio. Actually, it is only necessary to lower the decoupling resistance during the transfer of a pulse through the particular terminal. This can be achieved by replacing the decoupling resistors by transistors operating in

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ACC NR: AT6015368 O

switching mode. The transistors are normally turned off, but at the instant when a word is to be decoded, they are turned on for a brief period, until the decoding is done. The switching pulse is applied between the base and emitter through an RC network. All transistors in a particular section of the matrix are turned on and off simultaneously. The application of this technique produced a response improvement by a factor of 70, while preserving the 12:1 logic level ratio. A modification of this circuit leads to a further simplification of the decoder. Here, the coupling RC networks in the bases of the switching transistors are replaced by the secondary windings of a single pulse transformer. An improvement of response by a factor of 500 was possible at a sacrifice in signal-to-noise ratio of 2:1. The new switching method makes 5 MHz decoder operation feasible as compared to the 200 KHz for diode matrices using decoupling resistors. Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: 15Dec65

Card 2/2 gd

KRYUCHKOV, A.D.; MORDOVSKIY, S.I., kand. tekhn. nauk, retsenzent; SAMUYLOV, V.A., inzh., red.; YURKEVICH, M.P., inzh., red. izd-va; SHCHETININA, L.V., tekhn. red.

[Automatic control of piston compressors] Avtomatizatsiia porshnevykh kompressorov. Moskva, Mashgiz, 1963. 278 p. (MIRA 16:12)

(Air compressors) (Automatic control)

SAMUYLOV, Ye.I.

Seminar on welding conductors. Avtom., telem. i sviaz' 2 no.6: 35 Je '58. (MIRA 11:6)

1. Starshiy inzhener Gomel'skogo kontrol'no-ispytatel'nogo punkta Belorusskoy dorogi.

(Electric conductors--Welding)

SAMUYLOV Y. V.

PREDVODITELEV, Aleksandr Savvich, prof.; STUPOCHENKO, Yevgeniy Vladimirovich, prof.; SAMUYLOV, Yevgeniy Vasil'yevich; STAKHANOV, Igor' Pavlovich; PLESHANOV, Aleksandr Sergeyevich; ROZHDESTVENSKIY, Igor' borisovich; ZELENKOVA, Ye.V., tekh.red.

[Tables of thermodynamic functions of the air (for temperatures from 6,000° to 12,000° K and atmospheric pressure from 0.001 to 1,000)] Tablitsy termodinamicheskikh funktsii vozdukha (dlia temperatur ot 6000° do 12000° K i davlenii ot 0,001 do 1000 atmosfer). Moskva, Izd-vo Akad.nauk SSSR, 1957. 301 p. (MIRA 11:3)

1. Vychislitel'nyy tsentr laboratorii fiziki goreniya energeticheskogo instituta im. G.M.Krzhizhanovskogo Akademii nauk SSSR i Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova (for Stupochenko, Samuylov, Stakhanov, Pleshanov, Rozhdestvenskiy)
(Thermodynamics--Tables, calculations, etc.)

Samuylov, Ye. V.

82139
S/058/60/000/02/14/023

24.5300

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 2, p. 100, # 3248

AUTHORS: Stupochenko, Ye. V., Stakhanov, I. P., Samuylov, Ye. V., Pleshanov, A. S., Rozhdestvenskiy, I. B.

TITLE: Thermodynamic Properties of Air Within the Temperature Range From 1,000 to 12,000°K and the Pressure Range From 0.001 to 1,000 atm

PERIODICAL: V sb.: Fiz. gazodinamika. Moscow, AN SSSR, 1959, pp. 3-38

TEXT: A method is described in detail for the calculation of thermodynamic properties of a mixture of gases capable to chemical reactions and ionization. The thermodynamic functions of the air were determined in two stages. First the calculation was carried out of the thermodynamic parameters of the "pure" components, which was reduced to the calculation of the statistical sums for atoms, molecules and their ions. Then the composition of the air and its thermodynamic functions were calculated. For determining the composition of the air the system of non-linear algebraic equations was solved. The system included equations of the law of acting masses for each of the possible reactions in air and the processes of ionization, the equation of Dalton's law, the equations

Card 1/2

82139
S/058/60/000/02/14/023

Thermodynamic Properties of Air Within the Temperature Range From 1,000 to 12,000°K and the Pressure Range From 0.001 to 1,000 atm

of material balances, and the law of conservation of charge. The thermodynamic functions of the mixture of reacting gases were obtained by the solution of two systems of linear equations. The effect of ionization, Coulomb's interaction and degeneration of the electronic gas on the values of the thermodynamic functions was evaluated. The results of the calculation showed that up to 6,000°K at a pressure from 0.001 to 1,000 atm the effect of ionization on the thermodynamic properties and the composition of the air can be neglected, from 6,000 to 12,000°K the effect of ionization of an order higher than the first can be neglected. The calculation was performed on a high-speed electronic computer. The results of the calculations were published in the form of tables. (Predvoditelev, A. S., et al., Tables of the thermodynamic functions of air within the temperature range from 1,000 to 12,000°K and the pressure range from 0,001 to 1,000 atm Izd-vo AN SSSR, 1957).

A. I. Osipov

Card 2/2

Samuylov, Ye. V.

Report submitted for the [illegible] Symposium on Combustion, Pittsburgh, Pa., August-September, 1958.

4. Following is a list of the Soviet papers submitted to the combustion symposium:

L A Lovachev — The Dependence of Laminar Flame Properties on the Mechanism of Chain Reactions

L A Lovachev — The Theory of Flame Propagation in Systems Involving Branched Chain Reactions

NIKITIN, Ye.Ye — On the Mechanism of Non-Adiabatic Relaxation in Molecular Collisions

I M Denisov, K I Shchelkin, Yu K Troshin — Some Questions of Analogy Between Combustion in a Thrust Chamber and in a Detonation Wave

K I Shchelkin — On the Criterion of High-Frequency (screaming) Vibrations Generation in a Turbulent Combustion Chamber

A I Sertsiner — A Simple Method for Determining Effective Activation Energies for Thermal Decomposition and Spontaneous Ignition of Certain Complex Molecules

L G Bolkhovitinov — On the Theory of Detonation Initiation by Impact

P A Tesner — The Energy of Activation of Gaseous Reactions with Solid Carbon

P A Tesner — Formation of Dispersed Carbon by Explosion and Thermal Decomposition of Acetylene

TESNER, P.A.
RAFALES, I.G.
ROBINOVICH, Ye. Ya. — Formation of Dispersed Carbon in Hydrocarbon Diffusion Flames

BAZHANOVA, T.V.
ZAYTSEV, S.G. — Effect of Dissociation on the Parameters of Reflected Shock Waves in Carbon Dioxide

ZAYTSEV, S.G.
SOLOUKHIN, R.I. — Study of Combustion of Adiabatically Heated Gas Mixture

I M Gandulov, K K Chekalin — Some Methods for Studying Two-Phase Fuel-Air Mixtures in a Flow

K K Chekalin — Propagation of Flame in Turbulent Flow of Two-Phase Fuel-Air Mixture

STUPOCHENKO, Ye. V.
SAMUYLOV, Ye. V.
VLESHANOV, A.S.
ROZENSTVEIKSHTEYN, L.R.
STAKHIMOV, I.P. — Thermodynamic Properties of Air at High Temperatures

A S Predvoditelev — Conditions of Regular Movement of Strong Shocks and Detonation

A S Predvoditelev — Some Remarks on the Regular Movement of Shocks with Cylindrical and Cylindrical Symmetry

A S Predvoditelev — Regular Motion of Shocks and of Detonation from the Viewpoint of Maxwell's Transfer Equations

PREDVODITELEV, Aleksandr Savvich; STUPOCHENKO, Yevgeniy Vladimirovich, prof.; ROZHDESTVENSKIY, Igor' Borisovich; SAMUYLOV, Yevgeniy Vasil'yevich; PLESHANOV, Aleksandr Sergeyevich

[Tables of aerodynamic and thermodynamic values of a stream of air behind a direct shock wave] Tablitsy gazodinamicheskikh i termodinamicheskikh velichin potoka vozdukha za priamym skachkom uplotneniia. Moskva, Izd-vo Akad.nauk SSSR, 1959. 77 p. (MIRA 14:2)

1. Chlen-korrespondent AN SSSR (for Predvoditelev). 2. Laboratoriya fiziki goreniya Energeticheskogo instituta AN SSSR (for Stupochenko, Rozhdestvenskiy, Samuylov, Pleshanov).
(Shock waves)

SAMOYLOV Ye. V

10(2) P-4, 3, 4 PHASE I BOOK EXPLOITATION SOV/2162

Akademiya nauk SSSR. Energeticheskiy institut.

Fizicheskaya gazodinamika (Physical Gas Dynamics) Moscow, 1959. 167 p. 3,000 copies printed.

Resp. Ed.: A.S. Predvoditelev, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: R.I. Kosykh; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This collection of articles is intended for scientific workers, instructors, engineers, and advanced vuz students specializing in the field of gas dynamics and the physics of combustion.

COVERAGE: This collection of articles is concerned with the results of work performed at the Power Institute, Academy of Sciences, USSR, during the years 1952-1955. Problems of gas dynamics and thermodynamic properties of air at high temperatures (up to 12,000° K) in a wide range of pressures from 0.001 to 1,000 atm. are discussed. Methods are presented for calculating a normal shock with

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lomb interaction, and the degeneration of the electron gas on the magnitudes of the thermodynamic functions, calculation formulas for enthalpy, and other thermodynamic aspects are covered.

Stupochenko, Ye.V., B.B. Dotsenko, I.P. Stakhanov, and Ye. V. Samuylov. Methods for Calculating the Kinetic Coefficients of Air at High Temperatures 39

This paper presents theoretical calculations of the kinetic coefficients of air, particularly the viscosity and thermal-conductivity coefficients, for the temperature range between 2,000 and 8,000° K and pressures between 0.001 and 1,000 atm. In determining the viscosity of air in connection with molecular dissociation, consideration is given to the interaction between the molecules and the viscosity of the molecular component of the mixture as well as to the gas kinetic diameters of atoms and the viscosity of the atomic component of the air. In studying the thermal conductivity in a binary mixture of chemically reacting gases, the heat flow is first determined for a binary gas mixture and then for a reacting gas mixture under equilibrium conditions. Calculated

curves are presented for the coefficients of viscosity and thermal conductivity as functions of the temperature with the pressure as parameter.

Samuylov, Ye. V. Effect of Internal Degrees of Freedom of Particles on the Transfer Coefficients fo a Multicomponent Gas Mixture 59

This paper makes use of the probability of various types of collisions of molecules to determine the coefficients of thermal conductivity and viscosity of multi-component gas mixtures. The solution of the system of generalized kinetic equations is performed by the method of Enskov.

Rozhdestvenskiy, I.B. Thermodynamic and Gas-dynamic Properties of the Air Flow Behind a Normal Shock With Consideration of the Dissociation and Ionization of Air 70

The range of conditions considered includes flow velocities between 4,500 and 15,500 m/sec and pressures ahead of the shock between 1 and 0.00001 atm. These conditions lead to temperatures behind the shock of up to 12,000° K and pressures up to 1,000 atm. The air ahead of the shock is assumed to be an equal mixture of reacting gases subject to Clapeyron's equation of state. Numerical

solutions are obtained for the entire system of thermodynamic and gas-dynamic equations. Curves of various thermodynamic properties behind the shock are presented. Tabulated values for these and other properties are also presented.

Gorban', N.F. Determination of the Gas-dynamic Parameters of the Flow Behind a Normal Shock With Consideration of Variable Thermal Conductivity and Dissociation of the Air 83

This paper presents an analytical method for calculating the functions of variation of pressure, density, temperature, velocity, velocity of sound, Mach number, and the ratio of specific heats of the flow directly behind a normal shock in air with variable specific heat in the presence of dissociation. The state of the gas behind the shock is assumed to be in thermodynamic equilibrium and the transition from the quilibrium condition ahead of the shock to the equilibrium condition behind the shock takes place instantaneously. The heat loss by radiation is neglected in calculating the temperature of the air behind the shock. A comparative analysis of the gas-dynamic parameters obtained by various methods is

PREDVODITELEV, A.S., prof.; STUPOCHENKO, Ye.V., prof.; PLESHANOV, A.S.; SAMUYLOV, Ye.V.; ROZHDESTVENSKIY, I.B.

[Tables of the thermodynamic functions of air; for temperatures ranging from 12000 to 20000° K and pressures between 0.001 and 1000 atmospheres] Tablitsy termodinamicheskikh funktsii vozdukha; dlia temperatur ot 12000 do 20000° K i davlenii ot 0,001 do 1000 atmosfer. Moskva, Izd-vo Akad.nauk SSSR, 1959. 229 p. (MIRA 13:2)

1. Chlen-korrespondent AN SSSR (for Predvoditelev).
(Air) (Thermodynamics)

SAMUILOV, Ye.V., kand.fiz.-matem.nauk, red.; SHPIL'RAYN, E.E., kand. tekhn.nauk, red.; SAMSONOV, V.G., red.; SMIRNOVA, N., tekhn.red.; REZOUKHOVA, A., tekhn.red.

[Motion of the nose section of long-range rockets; collected articles] Problemy dvizheniia golovnoi chasti raket dal'nego deistviia; sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1959. 488 p. (MIRA 13:5)

(Rockets (Aeronautics))

PREDVODITELEV, Aleksandr Savvich, prof.; STUPOCHENKO, Yevgeniy Vladimirovich; IONOV, Viktor Pavlovich; PLESHANOV, Aleksandr Sergeyevich; ROZHDESTVENSKIY, Igor' Borisovich; SAMUYLOV, Yevgeniy Vasil'yevich

[Thermodynamic functions of the air for temperatures from 1000 to 12000°K and pressures from 0.001 to 1000 atm.; graph of the functions] Termodinamicheskie funktsii vozdukha dlia temperatur ot 1000 do 12000°K i davlenii ot 0.001 do 1000 atm; grafiki funktsii. Moskva, Izd-vo Akad.nauk SSSR, 1960. 53 p.

(MIRA 13:7)

1. Chlen-korrespondent AN SSSR (for Predvoditelev).

(Thermodynamics--Tables, calculations, etc.)

81573
S/076/60/034/06/18/040
B015/B061

24.5300

AUTHORS: Stupochenko, Ye. V., Samuylov, Ye. V., Pleshanov, A. S., Rozhdestvenskiy, I. B. (Moscow)

TITLE: Thermodynamic Functions of Air at High Temperatures

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 6, pp. 1265-1274

TEXT: The thermodynamic properties of air and its components were examined at temperatures from 12000° to 20000°K and pressures from 0.001 to 1000 at. The calculations had to be carried out in three stages for such high temperatures: 1) Calculation of the thermodynamic functions of the components of air, and a calculation of the equilibrium constants for dissociation and ionization; 2) Calculation of the composition of air at different temperatures and pressures, and 3) Calculation of the thermodynamic properties of air. It was established that the thermodynamic functions of air can be calculated with sufficient accuracy by methods of statistical physics, with consideration of the Coulomb interaction of the charged particles by the Debye-Hückel equation, and with

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Thermodynamic Functions of Air at High Temperatures.

consideration of the linear dimensions of the excited particles by the method of Fermi and Urey. At a pressure of 1000 at, and a temperature of 20000°K, the maximum error is some percent. This calculation error is valid for ionized components of air at 1000 at and in the whole temperature range from 12000° to 20000°K. Calculation formulas for the initially mentioned temperature- and pressure ranges are given, as are the calculated values of the thermodynamic function and the composition of air. The calculations for the pressure range from 0.001 to 1 at were carried out with consideration of a dissociation of N_2 and O_2, and simple and double ionization of N, O, and Ar. In the pressure range from 1 to 1000 at the dissociation of N_2 and O_2, the formation of NO, and simple ionization of N, O, and Ar were considered. The results are given diagrammatically (Fig. 7). An electronic computer of the type BÉSM (VTs) of the AN SSSR (AS USSR) was used for the calculations. This work was carried out in course of a research program under the direction of Professor A. S. Predvoditelev in the institute named below. There are 7 figures, 1 table, and 10 references: 5 Soviet and 5 German.

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Thermodynamic Functions of Air at High Temperatures

81573
S/076/60/034/06/18/040
B015/B061

ASSOCIATION: Akademiya nauk SSSR Energeticheskiy institut (Academy of Sciences USSR, Institute of Power Engineering).
Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 8, 1958

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S/885/62/000/000/005/035
D234/D308

AUTHORS: Rozhdestvenskiy, I. B. and Samuylov, Ye. V.

TITLE: Virial coefficients of gases at high temperatures

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika, teploobmen i termodinamika gazov vysokikh temperatur. Moscow, Izd-vo AN SSSR, 1962, 60-71

TEXT: The authors calculate the second virial coefficient for interactions of $^5\Sigma$ and $^7\Sigma$ type at high temperatures, for the following pairs: O_2-O_2, N_2-N_2, O_2-N_2, H_2-H_2, H_2-He, H_2-H, He-H, N_2-O, N_2-N, H-H, N-N. The calculation of the interaction potential of H_2-He is described in detail

$$\overline{V(H_2,\ He)} = \frac{40.40}{R}\, e^{-3,159R}(4,604R - 0.611) \quad (13)$$

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D234/D308

Virial coefficients of ...

applicable for R between 1.29 and 1.62 Å only. There are 2 figures and 5 tables.

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S/885/62/000/000/006/035
D234/D308

AUTHORS: Samuylov, Ye. V. and Rozhdestvenskiy, I. B.

TITLE: Virial coefficients for a system of identical particles interacting according to different potential curves

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika, teploobmen i termodinamika gazov vysokikh temperatur. Moscow, Izd-vo AN SSSR, 1962, 72-77

TEXT: Using N. N. Bogolyubov's method the authors obtain

$$B(T) = -\frac{2\pi N}{3kT}\sum_{\alpha_1,\alpha_2} P(\alpha_1)P(\alpha_2)\int_0^\infty r^3\Phi'(r,\alpha_1,\alpha_2)e^{-\frac{\Phi(r,\alpha_1,\alpha_2)}{kT}}dr \qquad (26)$$

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and apply it to two examples: 1) all particles being in the ^2p state, with the result

$$B = \sum_{i=1}^{3}\left[\frac{1}{36}B_p^{(i)}(^1\Sigma) + \frac{1}{12}B_p^{(i)}(^3\Sigma)\right] + \sum_{i=1}^{2}\left[\frac{1}{18}B_p^{(i)}(^1\Pi) + \right.$$

$$\left. + \frac{1}{6}B_p^{(i)}(^3\Pi)\right] + \frac{1}{18}B_p(^1\Delta) + \frac{1}{6}B_p(^3\Delta) \qquad (31)$$

2) some atoms being in the ^1S and some in the ^2P state.

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S/885/62/000/000/007/035
D234/D308

AUTHORS: Samuylov, Ye. V. and Rozhdestvenskiy, I. B.

TITLE: Second virial coefficient for Morse's potential

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika, teploobmen i termodinamika gazov vysokikh temperatur. Moscow, Izd-vo AN SSSR, 1962, 78-98

TEXT: The authors give tabulated values of $B^* = 3\tilde{B}/2\pi\tilde{N}$ ($\tilde{}$ denotes molar quantities), of $B_1^* = T^*\partial B/\partial T$ and $B_2^+ = T^{*2}\partial^2 B^*/\partial T^{*2}$ for different values of $T^* = kT/D_e$ and β in the ranges 300 - 10000°K (for T) and 1.4 - 5.2 for 2β. There is 1 table.

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